

WHAT IS CLAIMED IS:

1. A method for imaging vulnerable plaque in coronary arteries,
comprising:
placing an optical fiber, formed of a scintillation detector within an
5 artery;
obtaining a light signal at a proximal end, with respect to an operator,
said light signal being an indicator of a scintillation event;
obtaining a reflected light signal, reflecting from a distal end; and
obtaining a time differentiation between said two signals, so as to obtain
10 the distance from the operator to the point of the scintillation event.